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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/647,733	08/25/2003	Arshavir Gundjian	14972-266	2153

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EXAMINER

LIANG, LEONARD S

ART UNIT PAPER NUMBER

2853

DATE MAILED: 05/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/647,733	Applicant(s) GUNDJIAN ET AL.	
	Examiner Leonard S. Liang	Art Unit 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

The response to election/restriction filed on 04/01/05 has been noted. Claims 1-12 will herein be examined.

Specification and Drawings

The lengthy specification and drawings have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification and drawings.

However, the examiner would like to bring to the applicant's attention a couple errors that were found. First, the statement "This application claims priority...which is a divisional of prior U.S. Patent Application No. 08,728,398." should be on the first page of the body of the specification and not on the title page. Also, in figure 2, both a computer and a thermal inkjet printhead have been labeled with the reference number 16. Appropriate correction is required.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

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Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1 and 8 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 18 of Gundjian et al (U.S. Patent No. 6106110) in view of Gundjian (U.S. Patent No. 4867481). Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter claimed in the instant application is disclosed in the co-pending application and is covered by the co-pending application since the co-pending application and the application are claiming common subject matter, as shown in tables 1 and 2 below.

US Pat 6106110 Claims

18. A colorless thermal ink jet ink composition suitable for use in a thermal ink jet printer comprising:

- a) a carrier liquid comprising water; and
 - b) a latent image recording material comprising a first component A of a color reacting pair A+B;
- wherein information is printed on a substrate with said colorless thermal ink jet ink composition is invisible to an unaided human eye in visible light and undecipherable to an unaided human eye in infrared light and ultraviolet light, but is reactable with an activating composition comprising a second component B of said color reacting pair to produce a colored reaction product A+B which is visible to an unaided human eye in visible light.

#10/647733 Claims

1. A thermal ink jet printing system comprising
a) a substrate pretreated with scrambling patterns, at least one of said patterns being absorbing under ultraviolet light and at least one of the patterns being absorbed under infrared light;

b) a colorless thermal ink jet ink composition having a carrier liquid comprising water; and a latent image recording material comprising a first component A or a color reacting pair A+B;

wherein information printed on the substrate with the colorless thermal ink jet composition comprising only first component A is invisible to an unaided human eye in visible light and undecipherable to an unaided human eye in infrared light and ultraviolet light, but is reactable with an activating composition comprising a second component B of the color reacting pair to produce a colored reaction product A+B which is visible to an unaided human eye in visible light.

8. A method for secure thermal ink jet printing on a substrate comprising:

a) providing a substrate pretreated with scrambling patterns, at least one of said patterns being absorbing under ultraviolet light and at least one of said patterns being absorbing under infrared light;

b) providing said colorless thermal ink jet ink composition comprising said first component A of said color reacting pair A+B;

c) providing thermal ink jet printing information on a substrate with said colorless thermal ink jet ink composition;

d) obtaining thereby printed information on said substrate which is invisible to an unaided human eye in visible light and undecipherable to an unaided human eye in infrared light and ultraviolet light; and

e) reacting said printed information with an

	activating composition comprising a second component B of said color reacting pair to produce a colored reaction product A+B with printing information that is visible to an unaided human eye in visible light
--	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Gundjian et al (US Pat 6106110) discloses the same colorless thermal ink jet ink composition and means for using the thermal ink jet ink composition as the pending application.

Gundjian et al (US Pat 6106110) differs from the claimed invention in that it does not disclose a substrate pretreated with scrambling patterns, at least one of said patterns being absorbing under ultraviolet light and at least one of the patterns being absorbed under infrared light.

Gundjian (US Pat 4867481) discloses a substrate pretreated with scrambling patterns, at least one of said patterns being absorbing under ultraviolet light and at least one of the patterns being absorbed under infrared light (abstract; column 5, lines 21-27).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Gundjian (US Pat 4867481) into the invention of Gundjian et al (US Pat 6106110). The motivation for the skilled artisan in doing so is to gain the benefit of instituting more secure thermal ink jet printing. This combination is proper in light of the teaching reference Hirano et al (US Pat 5018884) which teaches that it is well known in the ink jet art to use an ink jet printer in a fax machine, a copying machine or in printer for a personal computer (column 1, lines 8-16) for the purpose of printing information. This justifies the combining of the substrate of Gundjian (US Pat 4867481) even though it is directed to use in a photocopying machine.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dixon et al (US Pat 5087283) in view of Gundjian (US Pat 4867481).

Dixon et al discloses:

- {claim 1} A thermal ink jet printing system ((column 1, lines 8-10 and 62-64) comprising a colorless thermal ink jet ink composition having a carrier liquid comprising water; and a latent image recording material comprising a first component A or a color reacting pair A+B (column 2, lines 17-46); wherein information printed on the substrate with the colorless thermal ink jet composition comprising only first component A is invisible to an unaided human eye in visible light and undecipherable to an unaided human eye in infrared light and ultraviolet light, but is reactable with an activating composition comprising a second component B of the color reacting pair to produce a colored reaction product A+B which is visible to an unaided human eye in visible light (column 2, lines 42-65; while it is not specifically stated that the latent image is invisible in UV or IR light, the reference teaches that it is necessary to apply the developer to view the image. Thus, without the developer, the image would be invisible to any type of light)

- {claim 2} A thermal ink-jet printing system which is one ink cartridge in a multiple ink cartridge system (column 1, lines 8-9 and 54-59; this reference does not specifically teach the use of multiple ink cartridges. However, the background of the invention teaches that it is well known to use various printing systems in order to produce items combining visible and invisible text. The background further teaches that it is desirable to employ ink jet printers in the production of these items. Thus, it is naturally suggested that multiple color ink cartridges could be provided in addition to the invisible ink cartridge for the purpose of printing items having a combination as visible and invisible ink)
- {claim 3} A thermal ink jet printing apparatus comprising: a thermal ink jet printhead; and one or more ink cartridges supplying ink to the thermal ink jet printhead, wherein at least one of the ink cartridges comprises a colorless thermal ink jet ink printing system (column 1, lines 8-9; see note of claim 2)
- {claim 4} a plurality of ink cartridges, one of the ink cartridges comprise ink which is visible to an unaided human eye in visible light when printed on a substrate (column 1, lines 6-17)
- {claim 8} A method for secure thermal ink jet printing on a substrate (column 1, lines 62-column 2, line 65) comprising: providing said colorless thermal ink jet ink composition comprising said first component A of said color reacting pair A+B (column 2, lines 42-46); providing thermal ink jet printing information on a substrate with said colorless thermal ink jet ink composition (column 2, lines 42-46); obtaining thereby printed information on said substrate which is invisible to

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an unaided human eye in visible light and undecipherable to an unaided human eye in infrared light and ultraviolet light (column 2, lines 42-46); and reacting said printed information with an activating composition comprising a second component B of said color reacting pair to produce a colored reaction product A+B with printing information that is visible to an unaided human eye in visible light (column 2, lines 42-65)

Dixon et al differs from the claimed invention in that it does not disclose:

- {claim 1} a substrate pretreated with scrambling patterns, at least one of the patterns being absorbing under ultraviolet light and at least one of the patterns being absorbing under infrared light
- {claim 8} providing a substrate pretreated with scrambling patterns, at least one of said patterns being absorbing under ultraviolet light and at least one of said patterns being absorbing under infrared light

Gundjian discloses:

- {claim 1} a substrate pretreated with scrambling patterns, at least one of the patterns being absorbing under ultraviolet light and at least one of the patterns being absorbing under infrared light (abstract; column 5, lines 21-27)
- {claim 8} providing a substrate pretreated with scrambling patterns, at least one of said patterns being absorbing under ultraviolet light and at least one of said patterns being absorbing under infrared light (abstract; column 5, lines 21-27)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Gundjian into the invention of Dixon et al.

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The motivation for the skilled artisan in doing so is to gain the benefit of instituting more secure thermal ink jet printing. This combination is proper in light of the teaching reference Hirano et al (US Pat 5018884) which teaches that it is well known in the ink jet art to use an ink jet printer in a fax machine, a copying machine or in printer for a personal computer (column 1, lines 8-16) for the purpose of printing information. This justifies the combining of the substrate of Gundjian even though it is directed to use in a photocopying machine.

Claims 5-7 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dixon et al (US Pat 5087283) in view of Gundjian (US Pat 4867481), as applied to claims 1-4 and 8 above, and further in view of Hirano et al (US Pat 5018884).

Dixon et al, as modified, teaches all limitations of the claimed invention except for the following:

- {claim 5} a thermal ink jet apparatus which is a computer printer
- {claim 6} a thermal ink jet apparatus which is a facsimile machine
- {claim 7} a thermal ink jet printing apparatus which is a photocopy machine
- {claim 11} wherein the thermal ink jet printing is of a facsimile
- {claim 12} wherein the thermal ink jet printing is of a photocopy

Hirano et al discloses that it is well known in the ink jet art to use an ink jet printer in a fax machine, a copying machine or in printer for a personal computer (column 1, lines 8-16) for the purpose of printing information.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Hirano et al into the invention of modified

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Dixon et al. The motivation for the skilled artisan in doing so is to gain the benefit of increasing to usefulness of the invention by using it in a variety of different ink jet contexts.

Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dixon et al (US Pat 5087283) in view of Gundjian (US Pat 4867481), as applied to claims 1-4 and 8 above, and further in view of Christy et al (US Pat 5368334).

Dixon et al, as modified, teaches all limitations of the claimed invention except for the following:

- {claim 9} a method for secure thermal ink jet printing which comprises thermal ink jet printing in selected areas of the substrate visible information which is visible to an unaided human eye in visible light and also printing in selected areas of the substrate invisible information which is invisible to an unaided human eye in visible light and undecipherable to an unaided human eye in infrared light and ultraviolet light
- {claim 10} wherein visible information and invisible information are printed in a same selected area of the substrate

Christy et al discloses :

- {claim 9} a method for secure thermal ink jet printing which comprises thermal ink jet printing in selected areas of the substrate visible information which is visible to an unaided human eye in visible light and also printing in selected areas of the substrate invisible information which is invisible to an unaided human eye

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in visible light and undecipherable to an unaided human eye in infrared light and ultraviolet light (figure 3, reference 32, 33)

- {claim 10} wherein visible information and invisible information are printed in a same selected area of the substrate (figure 3, reference 33-34)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Christy et al into the invention of Dixon et al. The motivation for the skilled artisan in doing so is to gain the benefit of providing an enhanced security document that provides for both visible and invisible information.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Gundjian et al (US Pat 5421869) discloses a security marking method and composition.

Gundjian (US Pat 5424266) discloses a latent image printing process and substrate.

Leenders et al (US Pat 5568173) discloses an ink jet printing method.

Panken (US Pat 4525214) discloses a crayon adapted for development of latent images.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard S. Liang whose telephone number is (571) 272-2148. The examiner can normally be reached on 8:30-5 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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